KARNATAKA TEST HOUSE PVT LTD.

MATERIAL TESTING LABORATORY

NABL Accredited Laboratory as per ISO/IEC 17025

NABL Accredited Lab Certificate No.T-0901

Report No. : KTH/C.AGG/1297-2105/2013-2014 **Date: 26.09.2013**

TEST REPORT ON AGGREGATE
(Coarse Aggregate)

Name of the Customer*	:	**The Assistant Executive Engineer,** T Dasarahalli Sub division, Bagalagunte BBMP, Bangalore.
Name of the Project*	:	Improvement to Roads & Drain between 4th cross & Hesaragatta main road of Mallasandra in Ward No. 14.
Name of Contractor*	:	Mr.M Rajashekar, Bangalore
Source of Sample	:	Supplied by the Contractor.
Sample Received on	:	20.09.2013.
Technical Reference	:	IS : 2386 Part I to VIII– 1963 (Reaffirmed-2002), IS : 383 – 1970.

Sieve Analysis of Coarse Aggregate - 40mm & down size

Sl. No.	Sieve size mm	% Passing	IS : 383-1970 Stipulations		Remarks
			Single Size	Graded Size	
1	63	100	100	100	Sample confirms to Single Size for IS: Stipulation of 40mm size Aggregate
2	40	86.4	85 to 100	95 to 100	
3	20	17.3	0 to 20	30 to 70	
4	12.5	1.8	0 to 20	-	
5	10	-	0 to 5	10 to 35	
6	4.75	-	-	0 to 5	

Sl. No.	Test Conducted	Identification mm	Results	IS : 383 – 1970 Stipulations
1	Flakiness Index (%)	40	10.36	Not specified
2	Elongation Index (%)	40	14.14	Not specified
3	Impact Value (%)	40	22.51	Shall not be more than 45% for Concrete and 30% for Wearing surfaces, such as runways, roads and pavements.

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

(SREENIVASA.C)
TECHNICAL MANAGER

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778/44, Gokul 1st Stage, 2nd Phase, 8th Cross, Tumkur Road, Yeshwanthpur, Bangalore-560 022.

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NABL Accredited Lab Certificate No.T-0901

Report No. : KTH/C.AGG/1297-2105a/2013-2014 **Date: 26.09.2013**

TEST REPORT ON AGGREGATE
(Coarse Aggregate)

Name of the Customer*	:	**The Assistant Executive Engineer,** T Dasarahalli Sub division, Bagalagunte BBMP, Bangalore.
Name of the Project*	:	Improvement to Roads & Drain between 4th cross & Hesaragatta main road of Mallasandra in Ward No. 14.
Name of Contractor*	:	Mr.M Rajashekar, Bangalore
Source of Sample	:	Supplied by the Contractor.
Sample Received on	:	20.09.2013.
Technical Reference	:	IS : 2386 Part I to VIII– 1963 (Reaffirmed-2002), IS : 383 – 1970.

Sieve Analysis of Coarse Aggregate - 20mm

Sl. No.	Sieve size mm	% Passing	IS : 383-1970 Stipulations		Remarks
			Single Size	Graded Size	
1	40	100	100	100	Sample confirms to Single size of IS: Stipulation of 20mm size Aggregate
2	20	87.8	85 to 100	95 to 100	
3	16	45.3	-	-	
4	10	7.2	0 to 20	25 to 55	
5	4.75	0.7	0 to 5	0 to 10	

Sl. No.	Test Conducted	Identification mm	Results %	IS : 383 – 1970 Stipulations
1	Flakiness Index (%)	20	7.63	Not specified
2	Elongation Index (%)	20	12.36	Not specified
3	Crushing Value (%)	20	24.15	Shall not be more than 45% for Concrete and 30% for Wearing surfaces, such as runways, roads and pavements.

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

(SREENIVASA.C)
TECHNICAL MANAGER

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778/44, Gokul 1st Stage, 2nd Phase, 8th Cross, Tumkur Road, Yeshwanthpur, Bangalore - 560 054

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NABL Accredited Lab Certificate No.T-0901

Report No. : KTH/F.AGG/1297-2106/2013-2014 **Date: 26.09.2013**

TEST REPORT ON AGGREGATE
(Fine Aggregate)

Name of the Customer*	:	**The Assistant Executive Engineer,** T Dasarahalli Sub division, Bagalagunte BBMP, Bangalore.
Name of the Project*	:	Improvement to Roads & Drain between 4th cross & Hesaragatta main road of Mallasandra in Ward No. 14.
Name of Contractor*	:	Mr.M Rajashekar, Bangalore
Source of Sample	:	Supplied by the Contractor.
Sample Received on	:	20.09.2013.
Technical Reference	:	IS : 2386 Part I to VIII– 1963 (Reaffirmed-2002), IS : 383 – 1970.

Sieve Analysis of Fine Aggregate (River Sand)

Sl. No.	Sieve size mm	% Passing	IS : 383 – 1970 Specification				Remarks
			% passing for Zone I	% passing for Zone II	% passing for Zone III	% Passing for Zone IV	
1	10	100	100	100	100	100	Falls in Zone –II as per table 4 of IS-383 – 1970.
2	4.75	98.6	90 – 100	90 – 100	90 – 100	95 - 100	
3	2.36	83.4	60 – 95	75 – 100	85 – 100	95 - 100	
4	1.18	60.8	30 – 70	55 – 90	75 – 100	90 - 100	
5	0.600	38.7	15 – 34	35 – 59	60 – 79	80 - 100	
6	0.300	10.6	5 – 20	8 – 30	12 – 40	15 to 50	
7	0.150	0.8	0 – 10	0 – 10	0 – 10	0 to 15	

Sl. No.	Test Conducted	Results	IS : 383 – 1970 Stipulations
1.	Silt Content (%)	2.30	-

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

(SREENIVASA.C)
TECHNICAL MANAGER

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KARNATAKA TEST HOUSE PVT LTD.

MATERIAL TESTING LABORATORY

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Report No. : KTH/CEMENT/1297-2107/2013-2014 **Date: 29.09.2013**

PHYSICAL TEST REPORT ON CEMENT

Interim 3 & 7 days

Name of the Customer*	:	**The Assistant Executive Engineer,** T Dasarahalli Sub division, Bagalagunte BBMP, Bangalore.
Name of the Project*	:	Improvement to Roads & Drain between 4th cross & Hesaragatta main road of Mallasandra in Ward No. 14.
Name of Contractor*	:	Mr.M Rajashekar, Bangalore
Source of Sample	:	Supplied by the Contractor.
Type of cement*	:	Ordinary Portland Cement (OPC)
Brand of cement*	:	Birla Super 53 Grade.
Sample Received on	:	20.09.2013.
Period of test	:	21.09.2013 to 28.09.2013.
Technical Reference	:	IS: 4031(Part I–VI) 1988 (Reaffirmed–2000) & IS: 12269-1987.

Sl. No.	Test Conducted	Results	IS : 12269-1987 Stipulation	Remarks
1	Normal consistency	30.0 %	Not specified	-
2	Initial setting time	184 minutes	Shall not be less than 30 minutes	P
3	Final setting time	236 minutes	Shall not be more than 600 minutes	P
4	Compressive strength (Average of three results) a. 72 ± 1h (3 days) b.168 ± 2h (7 days) c. 672 ± 4h (28 days)	 30.47 MPa 40.38 MPa T.T.C	 Shall not be less than 27.0 MPa Shall not be less than 37.0 MPa Shall not be less than 53.0 MPa	 P P -
5	Fineness (By Blaine's air permeability method)	329.43 m^2/kg	Shall not be less than 225m 2/kg	P
6	Soundness (Le-chatlier's method)	1.15 mm	Shall not be more than 10 mm	P

P: Passes IS requirement F: Fails IS requirement T.T.C: Test To be Conducted.

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

(SREENIVASA.C.)
TECHNICAL MANAGER

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KARNATAKA TEST HOUSE PVT LTD.

MATERIAL TESTING LABORATORY

NABL Accredited Laboratory as per ISO/IEC 17025

NABL Accredited Lab Certificate No.T-0901

Report No.: KTH/ST/1297-2108/2013-2014 **Date: 26.09.2013**

TEST REPORT ON STEEL BARS

Name of the Customer*	:	**The Assistant Executive Engineer,** T Dasarahalli Sub division, Bagalagunte BBMP, Bangalore.
Name of the Project*	:	Improvement to Roads & Drain between 4th cross & Hesaragatta main road of Mallasandra in Ward No. 14.
Name of Contractor*	:	Mr.M Rajashekar, Bangalore
Source of Sample	:	Supplied by the Contractor.
Sample Received on	:	20.09.2013.
Nature of Sample*	:	Reinforcement steel – 8mm & 10mm
Technical Reference	:	Tensile IS: 1786 – 2008 & IS: 1608–1995 (Reaffirmed–2000) Bend & Re-bend IS: 1786 – 2008 & IS: 1599 - 1985 (Reaffirmed–2000)
Grade of Steel*	:	Fe-500.

TENSILE TEST :

Dia (mm)	8	10	Limits as per IS : 1786-2008, Gr. Fe 500
Weight / unit length (kg/m)	0.383	0.586	8mm – 0.367 Min 10mm – 0.574 Min
Yield Stress (N/mm^2)	517.52	545.62	500 Min
Tensile Strength (N/mm^2)	597.13	608.09	10% More than actual 0.2% proof stress but not less than 545 N/mm^2
% Elongation (on 5.65 $\sqrt{A}$G.L)	24.0	21.5	12.0 Min.

BEND TEST:

Sl. No.	*Dia (mm)*	*Mandrel diameter*	*Observations*
1.	8	4 dia	No cracks observed. Passes the test.
2.	10	4 dia	No cracks observed. Passes the test.

REBEND TEST:

Sl. No.	*Dia (mm)*	*Mandrel diameter*	*Observations*
1.	8	5 dia	No cracks observed. Passes the test
2.	10	5 dia	No cracks observed. Passes the test.

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

(SREENIVASA.C)
TECHNICAL MANAGER

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ಬಿಬಿಎಂಪಿ ಬಂಗಾರಪ್ಪ ಬಡಾವಣೆ ಬಾಲಕರ
ಬಾಗಲಗುಂಟೆ, ಬೆಂಗಳೂರು - 560 073.

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